



ILLINOIS ENVIRONMENTAL PROTECTION AGENCY

1021 NORTH GRAND AVENUE EAST, P.O. BOX 19506, SPRINGFIELD, ILLINOIS 62794-9506 - (217) 782-2113

PAT QUINN, GOVERNOR

217/785-1705

CONSTRUCTION PERMIT - REVISED NSPS SOURCE

PERMITTEE

Cottonwood Hills RDF, a Waste Management Company
Attn: Ernest H. Dennison, P.E., Environmental Engineer
10400 Hillstown Road
Marissa, Illinois 62257

Application No.: 06100058

I.D. No.: 163075AAL

Applicant's Designation:

Date Received: November 16, 2011

Subject: Gas Collection System with an Open Flare

Date Issued: December 9, 2011

Location: 10400 Hillstown Road, Marissa, St. Clair County

Permit is hereby granted to the above-designated Permittee to CONSTRUCT emission source(s) and/or air pollution control equipment consisting of a landfill gas collection system and an open (utility) flare, as described in the above referenced application. This Permit is subject to standard conditions attached hereto and the following special condition(s):

- 1a. This permit authorizes construction of a gas collection system and an open flare (the affected flare) with a design capacity of 3,000 scfm of landfill gas (LFG), which the Permittee intends to operate to comply with the control requirements of the New Source Performance Standards (NSPS) for Municipal Solid Waste (MSW) Landfills, 40 CFR 60, Subpart WWW.
- b.
 - i. This permit does not relax or otherwise revise any requirements and conditions that apply to the operation of existing landfill, including applicable monitoring, testing, recordkeeping, and reporting requirements pursuant to the Clean Air Act Permit Program (CAAPP) permit issued for the source.
 - ii. This permit does not relieve the Permittee of the responsibility to comply with all Local, State and Federal Regulations which are part of the applicable Illinois State Implementation Plan, as well as all other applicable Federal, State and Local requirements. In particular, this permit does not excuse the Permittee from the obligation to undertake further actions at the source as may be needed to eliminate air pollution, including nuisance due to odors, such as implementation of additional work practices for handling of waste or enhancements to the gas collection system.
- 2a. The affected flare is subject to the Landfill NSPS control requirements pursuant to the NSPS:
 - i. The affected flare shall be operated in accordance with 40 CFR 60.18 and 60.754(e), including:

- A. There shall not be visible emissions from the flare, except for periods not to exceed a total of 5 minutes during any 2 consecutive hours, pursuant to 40 CFR 60.18(f)(1).
 - B. The flare shall be operated with a flame present at all times while landfill gases are being vented to it, as determined by the methods specified in 40 CFR 60.18(f)(2).
 - C. The flare shall be used only with the net heating value of the gas being combusted being 7.45 MJ/scm (200 Btu/scf) or greater. The net heating value of the gas being combusted shall be determined by the methods specified in 40 CFR 60.18(f)(3) and 60.754(e).
 - D. The flare shall be designed and operated with an exit velocity less than the maximum allowable velocity, V_{max} , as determined by the method specified in 40 CFR 60.18(f)(6) and 60.754(e).
 - E. The Permittee shall install, maintain, and operate equipment for the flare to monitor flare pilot flame using a thermocouple or any other equivalent device to detect the presence of a flame.
- ii. Pursuant to 40 CFR 60.756(c)(1), the Permittee shall install, calibrate, maintain, and operate a heat sensing device for the affected flare, such as an ultraviolet beam sensor or thermocouple, at the pilot light or the flame itself to indicate the continuous presence of a flame, in accordance with the manufacturing specifications.
 - iii. Pursuant to 40 CFR 60.756(c)(2), the Permittee shall either, install, calibrate, maintain, and operate a gas flow rate measuring device for the affected flare that records flow to the flare at least every 15 minutes or secure the bypass line valve for the flare in the closed position with a car-seal or lock-and-key configuration to ensure that the gas flow is not diverted through the bypass line.
 - iv. The Permittee shall monitor the affected flare to ensure that it is operated and maintained in conformance with the manufacturer's design specifications.
- b. The affected landfill is subject to the National Emission Standards for Hazardous Air Pollutants (NESHAP) for Municipal Solid Waste Landfills, 40 CFR 63, Subpart AAAA (the landfill NESHAP) and related requirements in 40 CFR 63 Subpart A, General Provisions. Pursuant to this NESHAP, 40 CFR 63.1960, the Permittee must develop and implement a written Startup, Shutdown, and Malfunction Plan for the affected flare at the landfill in accordance with 40 CFR 63.6(e)(3).

- 3a. This permit is issued based on negligible emissions of Hazardous Air Pollutants (HAPs) from the affected flare. For this purpose, HAP emissions shall not exceed 0.4 Tons/year.
- b. Emissions of the affected flare shall not exceed the following limits. These limits are based on the information provided in the application including the maximum flow to the affected flare and continuous operation.

Pollutant	Emissions		
	(Lbs/mmBtu)	(Lbs/Hour)	(Tons/Year)
NO _x	0.068	6.45	28.34
CO	0.37	35.11	154.22
VOM	0.0068	0.64	2.82
SO ₂	0.094	8.97	39.38
PM	0.0187	1.77	7.79

- c. This permit is issued based on the affected emission increases not constituting a significant increase for the purposes of federal rules for Prevention of Significant Deterioration (PSD), 40 CFR 52.21, or Major Stationary Source Construction and Modification (MSSCAM), 35 IAC Part 203. This is because the source was not and will continue to not be a major source of emissions for purpose of PSD and MSSCAM pollutants. Also, the allowable emission increases for this project will not trigger NSR for the source. For this purpose, total emissions of the source shall not exceed the following limits:

Pollutant	Limit (Tons/year)
NO _x	80
CO	200
SO ₂	80
VOM/NMOC	40
PM/PM ₁₀ *	80

* Limits only address filterable PM and do not include fugitive PM emissions from the landfill operations.

- d. i. Emissions shall be determined using appropriate emission factors, which in order of preference shall be factors from on-site emission testing, manufacturer's emission data, and emission factors from USEPA's Compilation of Air Pollutant Emission Factors (AP-42), with appropriate adjustments to reflect any deficiencies in the operation of a unit.
- ii. Compliance with annual limits shall be determined from a running total of 12 months of data.
4. The Permittee shall, in accordance with the manufacturer's and/or vendor's recommendations, perform periodic maintenance on the pollution control equipment covered under this permit such that the pollution

control equipment be kept in proper working condition and not cause a violation of the Environmental Protection Act or regulations promulgated therein.

- 5a. Within 180 days of the date when actual or reported annual nonmethane organic compounds (NMOC) emission rate equals or exceeds 50 Mg/year, the Permittee shall conduct a performance test for the visible emissions from the affected flare to verify compliance with 40 CFR 60.18(c)(1).

Note: This permit is issued based on the Permittee having already conducted the observation for visible emissions from the affected flare when the source first became subject to the control requirements of the Landfill NSPS.

- 6a. In addition to the periodic monitoring for the active gas collection system required by 40 CFR 60.756, the Permittee shall conduct sampling for the composition of LFG arriving at the affected flare on at least an annual basis. The samples shall be analyzed for methane content, hydrogen sulfide, NMOC content (percent by volume), and net heat content (Btu/cubic foot) of the LFG.

- b. The Permittee shall keep records for this activity, including both collected data and documentation for the sampling and analysis activities.

- 7a. The Permittee shall keep the following records for the affected flare:

- i. A file containing the design specifications for the flare including capacity, scfm, and a demonstration that the flare is in compliance with applicable operating requirements of 40 CFR 60.18 and 40 CFR 60.754(e) (i.e., gas heat content and exit velocity).
- ii. The landfill gas consumption, on a daily basis.
- iii. An operating log which shall include the following:
 - A. Status of the flare.
 - B. Adjustments of flare's operating parameters.
 - C. Identification of any period when the flare was to be in service but was out of service with a detailed explanation of the cause and an explanation of actions taken to prevent or reduce the likelihood of future occurrences.
- iv. An inspection/maintenance log which shall include the following:
 - A. Date of inspection and observed condition of the flare.
 - B. Date and description of maintenance performed.

- b. Permittee shall keep the following records related to emissions of the affected flare:
 - i. Emission factors used for calculating the emissions and the maximum hourly emissions of the flare, with supporting documentation.
 - ii. Monthly and annual emissions of NO_x, CO, VOM, SO₂, PM, and HAPs from the flare, with supporting calculations (tons/month and tons/year).
- 8. All records and logs required by this permit shall be retained at a readily accessible location at the source for at least five years from the date of entry and shall be made available for inspection and copying by the Illinois EPA upon request. Any records retained in an electronic format (e.g., computer) shall be capable of being retrieved and printed on paper during normal source office hours so as to be able to respond to an Illinois EPA request for records during the course of a source inspection.
- 9.a. For the affected flare, the Permittee shall comply with the applicable notification and reporting requirements of the Landfill NSPS and Landfill NESHAP.
- b. If there is any deviation from the requirements of this permit, the Permittee shall submit a report to the Illinois EPA, within 30 days after the deviation or such other time period specified in the source's CAAPP permit. The report shall include the emissions released in accordance with the recordkeeping requirements, a copy of the relevant records, and a description of the deviation or violation and efforts/activities taken to reduce emissions and future occurrences.
- 10. In the event that the operation of the landfill gas collection and control system results in an odor nuisance or any other nuisance due to the operation of the flare or through any other cause, the Permittee shall take all appropriate and necessary action, including but not limited to, changes in operating procedures or installation of air pollution control equipment, in order to eliminate the nuisance.
- 11. Two copies of required reports and notifications shall be sent to the Illinois EPA's compliance section at the following address unless otherwise indicated:

Illinois Environmental Protection Agency
Division of Air Pollution Control
Compliance Section (#40)
P.O. Box 19276
Springfield, Illinois 62794-9276

Tel: 217-782-5811

Fax: 217-782-6348

and one copy shall be sent to the Illinois EPA's regional office at the following address:

Illinois Environmental Protection Agency
Division of Air Pollution Control
2009 Mall Street
Collinsville, Illinois 62234

Tel: 618-346-5120

Fax: 618-346-5155

12. The Permittee may operate the affected flare pursuant to this revised construction permit until the CAAPP permit for the source is revised to address this system.

Please note this permit has been revised at the request of the Permittee to increase the permitted emissions for the affected flare based on site specific LFG sampling data. This revised permit also clarifies applicability of the Landfill NSPS and the Landfill NESHAP, as this source's emissions of NMOC have now triggered the control requirements of these rules.

If you have any questions on this, please call Kunj Patel or Justin Cameron at 217/785-1705.

Edwin C. Bakowski

Edwin C. Bakowski, P.E.
Manager, Permit Section
Division of Air Pollution Control

Date Signed: December 9, 2011

ECB:CPR:KMP/JTC:jws JTC 12/9/11

cc: Region 3 KMP 12/9/11
W 12/7/11



STATE OF ILLINOIS
ENVIRONMENTAL PROTECTION AGENCY
DIVISION OF AIR POLLUTION CONTROL
P. O. BOX 19506
SPRINGFIELD, ILLINOIS 62794-9506

**STANDARD CONDITIONS FOR CONSTRUCTION/DEVELOPMENT PERMITS
ISSUED BY THE ILLINOIS ENVIRONMENTAL PROTECTION AGENCY**

July 1, 1985

The Illinois Environmental Protection Act (Illinois Revised Statutes, Chapter 111-1/2, Section 1039) authorizes the Environmental Protection Agency to impose conditions on permits which it issues.

The following conditions are applicable unless superseded by special condition(s).

1. Unless this permit has been extended or it has been voided by a newly issued permit, this permit will expire one year from the date of issuance, unless a continuous program of construction or development on this project has started by such time.
2. The construction or development covered by this permit shall be done in compliance with applicable provisions of the Illinois Environmental Protection Act and Regulations adopted by the Illinois Pollution Control Board.
3. There shall be no deviations from the approved plans and specifications unless a written request for modification, along with plans and specifications as required, shall have been submitted to the Agency and a supplemental written permit issued.
4. The permittee shall allow any duly authorized agent of the Agency upon the presentation of credentials, at reasonable times:
 - a. to enter the permittee's property where actual or potential effluent, emission or noise sources are located or where any activity is to be conducted pursuant to this permit,
 - b. to have access to and to copy any records required to be kept under the terms and conditions of this permit,
 - c. to inspect, including during any hours of operation of equipment constructed or operated under this permit, such equipment and any equipment required to be kept, used, operated, calibrated and maintained under this permit,
 - d. to obtain and remove samples of any discharge or emissions of pollutants, and
 - e. to enter and utilize any photographic, recording, testing, monitoring or other equipment for the purpose of preserving, testing, monitoring, or recording any activity, discharge, or emission authorized by this permit.

The issuance of this permit:

- a. shall not be considered as in any manner affecting the title of the premises upon which the permitted facilities are to be located,
- b. does not release the permittee from any liability for damage to person or property caused by or resulting from the construction, maintenance, or operation of the proposed facilities,
- c. does not release the permittee from compliance with other applicable statutes and regulations of the United States, of the State of Illinois, or with applicable local laws, ordinances and regulations,
- d. does not take into consideration or attest to the structural stability of any units or parts of the project, and

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- e. in no manner implies or suggests that the Agency (or its officers, agents or employees) assumes any liability, directly or indirectly, for any loss due to damage, installation, maintenance, or operation of the proposed equipment or facility.
6. a. Unless a joint construction/operation permit has been issued, a permit for operation shall be obtained from the Agency before the equipment covered by this permit is placed into operation.
- b. For purposes of shakedown and testing, unless otherwise specified by a special permit condition, the equipment covered under this permit may be operated for a period not to exceed thirty (30) days.
7. The Agency may file a complaint with the Board for modification, suspension or revocation of a permit:
- a. upon discovery that the permit application contained misrepresentations, misinformation or false statements or that all relevant facts were not disclosed, or
 - b. upon finding that any standard or special conditions have been violated, or
 - c. upon any violations of the Environmental Protection Act or any regulation effective thereunder as a result of the construction or development authorized by this permit.

DIRECTORY
ENVIRONMENTAL PROTECTION AGENCY
BUREAU OF AIR

For assistance in preparing a permit application contact the Permit Section.

Illinois Environmental Protection Agency
Division of Air Pollution Control
Permit Section
1021 N. Grand Ave E.
P.O.Box 19506
Springfield, Illinois 62794-9506

or a regional office of the Field Operations Section. The regional offices and their areas of responsibility are shown on the map. The addresses and telephone numbers of the regional offices are as follows:

Illinois EPA
Region 1
Bureau of air, FOS
9511 West Harrison
Des Plaines, Illinois 60016
847/294-4000

Illinois EPA
Region 2
5415 North University
Peoria, Illinois 61614-
309/693-5463

Illinois EPA
Region 3
2009 Mall Street
Collinsville, Illinois 62234
618/346-5120

